

Louis-Albert Necker (1786–1861) and Henri de Saussure (1829–1905) — two early contributors to the ornithological collection of the Muséum d'histoire naturelle de Genève

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SUMMARY. — The cousins Louis-Albert Necker and Henri de Saussure exemplify the contribution to the study of birds made by non-specialists in the first half of the 19th century, during the period when ornithology was just emerging as a scientific discipline. Necker undertook local field observations and published some of the earliest detailed information on the birds of Switzerland, especially the Geneva region, and both men were important contributors to the Muséum d'histoire naturelle de Genève in ways characteristic of their time: via the donation of private collections or the procurement of exotic specimens through scientific expeditions.

While not on the scale of museums in the great capitals, the Muséum d'histoire naturelle de Genève (MHNG) boasts one of the largest ornithological collections in Europe (Roselaar 2003). Two important early contributors were cousins, Louis-Albert Necker (1786–1861) and Henri de Saussure (1829–1905). Necker's donation of more than 300 birds in 1819 was one of the collections from local *savants* that formed the core of the new institution, inaugurated as the Musée Académique in 1820. Saussure's expedition to Mexico and the Antilles in 1854–56 added many new specimens, as did Aloïs Humbert's expedition to Sri Lanka in 1858–60, and a donation from the East India Company of material collected in Java by Thomas Horsfield (Weber 1985). Subsequent contributions included the collections of Victor Fatio, Alfred Vaucher and Olivier Meylan, and specimens taken in the Philippines by William Parsons (see Baud 1976, 1978). The most recent major acquisition is the extensive egg collection of Werner Haller. Baud (1977) listed type specimens of 15 species, but many others have been recognised more recently (Weber 1985) and a new type catalogue is in production (Cibois *et al.* in press).

Though specialising in other fields—geology and entomology respectively—the cousins never lost their interest in ornithology, as may be seen from their correspondence, some of which survives in archives in Scotland and Geneva.

Louis-Albert Necker

On 27 March 1855 Necker wrote from Portree, on the Isle of Skye, to his cousin in Geneva, requesting specimens of 'some of the brightest and most beautiful birds from Mexico'¹. It was just a whim, he remarked, as he was no longer really a collector. In fact, he was no longer active in science at all, having abandoned his old life due to ill health and sought refuge in his beloved Scotland, but in earlier years he had amassed a large collection of ornithological specimens, some local, others from Africa and South America. Many were lost or destroyed over the years (Necker 1916), but current holdings at MHNG include 33 specimens from Necker's donation, four of them displayed in the public galleries (Hollier *et al.* 2015). He also published some of the earliest detailed information on birds in Switzerland, especially the Geneva region.

¹ L.-A. Necker to Henri de Saussure, 27 March 1855: Bibliothèque de Genève, Archives de Saussure 245.

Swiss ornithology commenced with the pioneering work of Conrad Gessner (1555), although his approach was universal and intended to cover all known species. His descriptions are often vague or inaccurate, and sometimes separate the two sexes as different species; nevertheless, many species, particularly those of which he could make direct observations, are still identifiable, and Linnaeus assumed many of his Latinised names meaning they are still in use (see Haffer 2007). Virtually nothing was known of the Swiss fauna at the beginning of the 19th century (Maumary *et al.* 2007: 60). There were no equivalents of Gilbert White or Thomas Pennant in 18th-century Switzerland, and pioneering Alpinist Horace-Bénédict de Saussure (the cousins' grandfather) mentioned only a few bird species in his natural history of the Geneva region (Saussure 1779, 1786). The first list of Swiss birds (Meisner 1804) was a checklist with the synonymies of various authors' nomenclature indicated. Thereafter, Meisner & Schinz (1815) presented brief descriptions and some information concerning the distribution and habits of species known from Switzerland. Necker had already read a 'Mémoire sur les oiseaux de la Suisse' at the Société de Physique et d'Histoire naturelle de Genève in 1813 (Sigrist 1990), and he published an early supplement to the Meisner & Schinz list (Necker 1818b), adding several vagrants, e.g. Caspian Tern *Hydroprogne caspia* and Western Orphean Warbler *Sylvia hortensis*, normally a Mediterranean species, which he reported breeding near Geneva.

Necker kept quite detailed ornithological notes based on his own field observations, as well as specimens and information provided by others, and records of birds found on the market stalls of Geneva. Some of these were published posthumously (Necker 1916). He produced the first list of the birds of Geneva, providing scientific and common names, and an indication of migratory status and rarities (Necker 1817). This was subsequently published in English, such information being useful for comparison but 'little known to British naturalists' (de la Beche 1824). His main ornithological work was a much more extensive survey of the birds of Geneva, with a discussion of those resident in the region (separating taxa associated with the lowlands, mountains, lakes, etc.) and their assemblages, and a calendar of migrants, both summer and winter (Necker 1823). The work was of sufficient interest to be abstracted in the *Edinburgh Journal of Science* (Anon. 1826). According to the introduction, he had been observing birds around Geneva for 20 years; if so, he must have started before his first trip to Scotland at the age of 20.

Necker spent two years at Edinburgh University in 1806–08, pursuing his main interest, geology. He took the opportunity to travel around Scotland, primarily seeking evidence for the competing geological positions in the ongoing Huttonian–Wernerian debate (Eyles 1948), but also observing landscape, society and manners. The published account of his travels (Necker 1809, 1821a)² covered a variety of subjects and included remarks on birds, although most of the natural history content was geological. Rixson (2011) commented unfavourably on Necker's ornithological skills because he reported seeing penguins in the Hebrides, but the error was clearly the translator's rather than Necker's: *pingouin* being French for auk (Alcidae, of which several species breed in Scotland), while *manchot* designates penguins (Spheniscidae).

Necker returned to Geneva following his studies, becoming assistant professor (1810–17), then honorary professor (1817–35), of mineralogy and geology at the Académie de Genève (now the university). He was active in helping to found the museum, giving one of the public lectures that helped finance the project (his topic was birds) as well as donating specimens (Hollier *et al.* 2015). Although he published no taxonomic work, Necker was a firm advocate of the need to observe birds in life as the basis for accurate identification and

² Two English translations of part of the latter work appeared under his name (Necker 1821b, 1822) although they were not necessarily authorised.

description of species, noting that behaviour and differences in plumage between juvenile and adult, the sexes, and also between seasons make taxonomy difficult (Necker 1818a). This was quite farsighted, as ornithology tended to be divided into field and systematic schools with little overlap until the early 20th century (Haffer 2007, 2008). His insistence on field notes, rather than relying on memory to write them up later, also strikes a modern note.

From 1829 ill health obliged Necker to curtail his scientific activities, which had included mineralogical research and extensive geological investigations in the eastern Alps. Declining the offer of a full professorship in 1835, he took to spending his winters in Scotland. Based mainly in Edinburgh, he also visited Arran, the Shetlands and Orkney; extracts from letters to his mother, Albertine Necker de Saussure (1766–1841), reveal his continuing preoccupation with natural history (Necker 1840). Strolling on the beach on Arran he was moved to try out skills unused for 20 years, skinning and stuffing a mackerel and then an auk, 'reviving, as Mme de Staël used to say, my taste for dissecting my friends'³. He settled in Portree, on the Isle of Skye, in April 1841. After the death of his mother in the same month, he severed almost all contact with his former life in Geneva. By the 1850s, however, he was once again in touch with friends and family, and glad to receive visits from some of his young relatives. One of these was Henri de Saussure, a cousin, although 43 years his junior.

Henri de Saussure

When Necker wrote in 1855 requesting bird specimens from Mexico, Henri de Saussure had already arrived there, realising at the age of 24 his ambition to undertake an expedition to Mexico and the Antilles. Following studies at the universities of Geneva (1850) and Paris (1852), and a doctorate from the University of Giessen in 1854, he was already beginning to specialise in entomology, but the aims of his Mexico trip were very broad. He consulted the great explorer Alexander von Humboldt, who offered advice and asked him to make a particular study of the volcanoes and bring back rock samples for study in Europe. This was more the domain of Saussure's elder cousin, who also offered good advice. Before giving detailed instructions on geological recording, and after warnings to take great care of his health (a Scottish plaid was one suggestion for protection against the cold), Necker enjoined his cousin to take copious notes, trust nothing to memory, and to be sure to draw and note exactly what he saw, unprejudiced by theoretical preconceptions.

Saussure was accompanied by his friend Henri Peyrot, by François Sumichrast (a naturalist from Vaud who acted as scientific assistant) and by the family gardener Marc Grosjean as factotum (Hollier & Hollier 2012). Although the dangers and difficulties caused by civil war obliged him to depart Mexico without visiting all of the places he had intended, the expedition provided numerous specimens for the museum. These were augmented by Sumichrast, who chose to remain in Mexico and eked out a poor living from teaching, farming and supplying specimens to museums in Europe and the USA. Reptiles and birds were his main interest; *Cyanospiza rositae* Lawrence, 1874 (Rosita's Bunting, or Rose-bellied Bunting) was named for Sumichrast's wife by one of his main customers, George Newbold Lawrence. Sumichrast also discovered many new invertebrate species, a large number of which were described by Saussure. Necker's requests to buy specimens in the years after 1855 were at least partially motivated by a generous wish to assist Sumichrast, who soon fell on hard times in the chaos of the Mexican civil war and its aftermath.

³ Letter 17 May 1839. Necker's mother Albertine, the eldest child of Horace-Benedict de Saussure, was a cousin and close friend of Madame de Staël, and wrote a short biography of her (Necker de Saussure 1820).

Saussure was a prolific taxonomist and described some 3,500 arthropod species, principally in the insect orders Hymenoptera and Orthoptera (*sensu lato*), but with substantial contributions in Crustacea and Myriapoda (Hollier & Hollier 2013). He also described 23 vertebrate species, including three birds (Saussure 1859b). Two were from Mexico and the other from the Antilles; their type specimens are all at MHNG (Hellmayr 1942, Baud 1977, Cibois *et al.* in press).

Falco ferrugineus Saussure, 1859, is a junior synonym of *Falco sparverius sparveroides* Vigors, 1827, a subspecies of American Kestrel, but the name *F. ferrugineus* is in any case a junior homonym of *F. ferrugineus* M. H. C. Lichtenstein, 1838. Saussure stated in the original description that he shot the specimen on Saint-Domingue (=Hispaniola) but the label gives the locality as Cuba (Hellmayr 1942).

Acanthylis semicollaris Saussure, 1859, now White-naped Swift *Streptoprocne semicollaris* (Saussure 1859). The original description did not mention a precise locality, stating only that the species lives in the large forests of Mexico.

Quiscalus sumichrasti Saussure, 1859, a junior synonym of Melodious Blackbird *Dives dives* (Deppe 1830). This species is sometimes also known as Sumichrast's Blackbird, commemorating Saussure's travelling companion. The original description did not mention a precise locality, stating only that the species is from Mexico and that the locals called it the 'otcho'.

Specimens from Saussure's expedition were exchanged with other museums; the *Comptes Rendus de l'Administration Municipale* for 1857 (Anon. 1858) recorded exchanges with the museums of Neuchâtel and Strasbourg, while an exchange with the British Museum is demonstrated by the fact that *Geothlypis speciosa* P. L. Sclater, 1858, was described from specimens collected by Saussure. There are currently 180 bird specimens from the expedition in the MHNG collection (L. Vallotton to J. Hollier pers. comm.).

Conclusion

Though cousins, the large age gap between Necker and Saussure meant the relationship was more that of uncle and nephew. Saussure's father Alphonse (the youngest son of Horace-Bénédict de Saussure) had been one of the companions of Necker's active ornithological days, providing him with observational data and specimens, including a Lammergeier *Gypaetus barbatus* (see Necker 1916). Necker gave Henri de Saussure much good advice both before and after his Mexican expedition. It is perhaps due to Necker's influence that Saussure's only publications concentrating solely on observations of behaviour and morphology were those of Mexican birds (Saussure 1858a, 1859a). Saussure emulated Necker in mixing field and systematic ornithology in a fashion unusual for the era (Haffer 2008). The confusion and paucity of locality data in Saussure's descriptions of birds appear to indicate that Necker's advice was not sufficiently adhered to, but there is evidence that Saussure did keep more detailed notes (Weber & Roguin 1983), and it is perhaps notable that very cursory descriptions and localities in some of Saussure's publications were followed by monographs containing much more detailed information (compare, for example, Saussure 1858b, 1860).

Necker was generally appreciative of Henri de Saussure's scientific work. This stemmed, in part, from family pride, but he did not hesitate to criticise where necessary; he was less critical of the ornithological work than of Saussure's forays into the geology encountered on his expedition⁴. Following the death of his cousin, Saussure wrote an obituary (Saussure 1861). He made special mention of Necker's ornithological works, and

⁴ Saussure's ornithological work also received a positive contemporary review from Des Murs (1859).

called for the Geneva memoir to be reprinted. When it was republished (Necker 1864), a translation of J. D. Forbes' life of Necker (Forbes 1863) was added⁵; in the circumstances, it seems possible that the translation was by Saussure. It is apparent from the obituary that Saussure thought Necker had been gathering material for a work on northern birds during his time on Skye, but nothing was ever published. Saussure never worked on birds again following the death of his cousin.

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⁵ James David Forbes was a geologist and glaciologist who became one of Necker's close friends in the later part of his life (Hollier *et al.* 2015).

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